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Study Calls It 'Feasible'

EUTELSAT BOARD TO DECIDE IN JUNE ON EUROPEWIDE DBS SYSTEM

Eutelsat board will decide whether to go ahead with Europesat direct broadcast satellite (DBS) program when it meets in mid-June in W. Germany, Eutelsat officials said. Recently completed study indicated multination DBS system is financially and technically feasible if World Administrative Radio Conference (WARC) regulations are modified to allow multinational systems, officials said.

Study envisions 2 co-located DBS satellites, plus one in-orbit spare and possibly ground spare. Operational satellites would carry up to 24 channels at 100-125 w and EIRP of 55 dBW. Power would be strong enough to allow signal to be received throughout Europe with 90-cm antenna, and in most cases with 70-cm, Eutelsat Dir. Gen. Andrea Caruso said in recent speech. Eutelsat officials wouldn't divulge satellite cost figures developed in study.

Startup operational date is tentatively 1994, depending on satellite availability, according to Eutelsat study (SW March 21 p8) that will be presented to board and formally made public at June meeting. Study says multinational system would be significantly cheaper than several national DBS satellites such as French TDF, German TV-Sat, European Space Agency Olympus, U.K. British Satellite Bcstg., Scandinavian Tele-X. TDF, TV-Sat and Olympus would to be co-located at 19° West, giving dish owner 10 channels without repointing dish, but Caruso said that would require 3 satellites, each with orbital spare, 3 satellite control centers, 3 operating agencies. Result would be higher costs, he said. Europesat, by contrast, would require only 3 satellites and one operating center to provide 24 channels.

Main advantage is slightly lower power for Europesat. First-generation DBS satellites require about 230 w per channel to meet 63 dBw required by original DBS plan set out in 1977 Space WARC. High power levels typically mean each satellite can carry only 3-4 operational transponders, resulting in "very high cost per channel," Caruso said. Space WARC also limited each DBS satellite to serving only one nation, which "reduces the size of the potential audience without offering any savings in the space segment cost or program production cost," he said.

Higher power levels aren't necessary any more because of improved receiver performance, Caruso said, allowing more transponders per satellite and reducing cost per channel. But no European countries are large enough to take full advantage of 12 DBS channels each satellite could carry. Solution, he said, is for Europe as whole to share satellites.

Europesat would allow smaller countries, which couldn't afford dedicated national DBS satellite, to acquire one or 2 channels on Pan-European DBS bird, Caruso said. Even existing DBS systems were result of govt., rather than commercial, decisions, he added.

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Eutelsat sees Europesat as next-generation replacement for TV-Sats, TDF, others. Prime orbital slot would be 29° East, but alternative is 19° West, same slot to be shared by present-generation birds. Europesat would carry at least 4-5 channels for each major linguistic population, 2 for Pan-European service such as music or news networks, some additional channels for smaller linguistic groups, Caruso said.

Satellites would transmit several beams, each aimed at specific linguistic regions and each partially overlapping. For example, beams targeted at German-speaking areas would be receivable in other areas, but at lower power levels. Entire system would cover area from Iceland and Finland to Azores and eastern Turkey, Caruso said. Uplink frequency bands being considered are 17.3-18.1 GHz, downlink 11.7-12.5 GHz.

New Satellite Developed

HUBBARD ASKS FCC FOR ANOTHER DBS EXTENSION, SEES CONDITIONS FAVORABLE NOW

Hubbard Bcstg. asked for another extension of its direct broadcast satellite (DBS) license, saying in application to FCC that "conditions now exist which are favorable to facilitate the rapid development of DBS." Hubbard, which wants to combine its 2 DBS authorizations into single satellite, also signed contract with GE Astro-Space to study development of next and largest generation of GE spacecraft, called Series 6000.

Hubbard's current license expires Dec. 4. It must get DBS satellite in orbit by then to meet license requirements, but hasn't begun construction of bird. Hubbard, through subsidiary U.S. Satellite Bcstg. (USSB), placed contract with GE in 1984 for 2 DBS satellites, each with 6 channels, but delivery date has been delayed twice, according to USSB Dir.-Technical Operations Paul Heinerscheid.

Delays were "inevitable given the industry climate" for last several years, Heinerscheid told us. One series of problems was technical, he said -- inability of industry to agree on transmission standards, combined with launch problems and related insurance difficulties. Other was difficulty convincing banks to finance project. "The entire media market has been in turmoil," Heinerscheid said. "Every [TV] network has changed hands during that period. Bankers said they could make a 50% profit just investing in CBS stock, so why would they take a chance on us. There was no way anyone could focus on the 10-year outlook."

Environment has improved enough to virtually guarantee DBS deployment by 1992 deadline USSB is seeking, it said in FCC petition. USSB said improvements include success of DBS in Japan and movement toward it in Europe, likelihood DBS satellites will be used for high-definition TV, continued efforts to standardize transmission methods, technological developments that allow small antennas to receive lower power transmissions (from 100-130 w transponders instead of 200-250 w). New technology means single satellite can carry 16 transponders instead of 6-8, reducing costs and making DBS more attractive to consumers because they can receive 16 channels without repointing antenna, USSB said.

HDTV is key factor in making DBS more attractive to investors, Heinerscheid said. "We think this will be very important for DBS satellites since satellite delivery is obviously the best delivery method," he said. USSB satellite will be flexible enough to allow combining 2 transponders into single 250-w source if needed to carry HDTV, he said: "How much it will be used at the very beginning we don't know. That's one of the reasons we're trying to build a very flexible satellite."

GE began study of new satellite this month, after receiving authorization from Hubbard. Bird would weigh about 6,000 lb., have about 6,000-w power capability. Specifications are similar to those of HS 601 satellite that Hughes is proposing for DBS applications (SW Oct 26 p3). Study is to last 9 months, mainly focus on determining exactly what power levels and other factors will best meet USSB's needs. Heinerscheid said transponder power levels probably will be 120-130 w.

No major new technology will be needed for Series 6000, officials of GE and USSB said. Satellite would use same basic bus as Series 4000 and Series 5000 satellites, but would have more powerful solar arrays, new payload arrangement, other modifications. "This is not a revolutionary spacecraft design, it's just evolutionary," Heinerscheid said.

Single satellite would be about $150 million cheaper than 2 with 8 transponders each, and savings would be passed on to users, USSB application said. Modification would eliminate cost of one launch, as well as expense of many satellite subsystems that would be duplicated for 2nd satellite. Single satellite would occupy 110° slot now assigned to one of 2 planned Hubbard birds, and Hubbard would give up 2nd slot at 148°, freeing it for 2 other applicants that seek slot, filing said. It also said it would agree to extend current FCC deadline for relocating terrestrial communications services that are using DBS spectrum now.

Hubbard's application is likely to be first of several for extending DBS launch deadlines, Heinerscheid said. Construction permits for several 2nd-round DBS applicants, including Hughes Communications, expire in first quarter of 1990. Since those companies haven't begun actual satellite construction, they're almost certain to have to apply for similar extensions, he said.

TVRO, VSAT Units

MATSUSHITA EXPANDING ROLE IN JAPANESE SATELLITE COMMUNICATIONS MARKET

Matsushita is making major commitment to satellite communications in Japan, company officials announced. It will produce and market satellite TV receive-only (TVRO) and VSAT equipment in Japan and throughout Pacific, starting with test and demonstration network in 5,000 of its own retail stores. Earth station equipment is based largely on technology developed by Harris Corp. of U.S.

Commitment is extension of Matsushita's "strategic partnership" for some time with Harris, according to Lee Blachowicz, vp-gen. mgr.-Harris Business Communications Div. Matsushita has been building RF and indoor units to Harris design for Harris VSATs. Companies have divided marketing responsibilities for different geographic areas. For Pacific market, Matsushita will manufacture VSATs under Harris license, market them under company's Panasonic trade name. Units will be essentially identical to Harris's PactNet 2-way Ku-band VSAT. In addition to license, Harris provided some technical consulting service, will continue to manufacture some components, Blachowicz said.

Matsushita said it will install first VSAT network in 5 locations, mainly to serve its own operations. It will use transponder leased from JCSat, hub earth station in Osaka, VSATs in Hokkaido, Kyushu, Okinawa, Osaka, Tokyo. Pilot TVRO network will involve 50 Matsushita stores beginning next spring, officials said. If tests of system are successful, it eventually will be expanded to about 5,000 retail outlets and used for employe training and to distribute new product information, they said.

Partnership between Matsushita and Harris is likely to spread to Europe in near future, Blachowicz said. Companies already have distribution agreement with French firm Matra Espace and cooperated to demonstrate unit at Telecom 87 convention in Geneva last fall (SW Oct 26 p7). Blachowicz said they're discussing similar distribution agreements with other companies in Europe.

May Be Treaty Condition

NUCLEAR WEAPONS LIMITS COULD BOOST SPY SATELLITE REQUIREMENTS

Treaties limiting nuclear weapons could be boon for spy satellite industry, congressional sources indicate. Senate Intelligence Committee won't comment on reports that it has requested $12 billion appropriation for new synthetic aperture radar satellites and birds to intercept Soviet communications, but officials confirm they're concerned U.S. won't have adequate intelligence assets to verify Soviet compliance with Intermediate Range Nuclear Force (INF) and Stratetic Arms Reduction Talks (START) treaties.

Intelligence Committee member Sen. Cohen (R-Me.) told Senate Foreign Relations Committee he's concerned verification responsibility "could seriously strain the future capability of the intelligence community." Current intelligence assets "may not be able to monitor [Soviet compliance] closely enough," he said in testimony March 22, and "potential gap must be appreciated" when considering whether to ratify treaty.

Committee linked its approval of INF treaty to approval of supplemental appropriation for satellites to monitor Soviet compliance with it, according to report in Washington Times. Report said committee wants to spend $2 billion per year through 1995 for 6 radar satellites and other satellite programs.

Committee sources said idea was too sensitive to comment on, but syndicated columnists Rowland Evans and Robert Novak said Cohen and Intelligence Committee member Sen. Boren (D-Okla.) have been lobbying President Reagan to approve more spending on satellites. They said idea has little support from Pentagon and CIA, but Reagan and National Security Adviser are leaning toward approval.

Boren is "strong advocate" of beefing up "national technical means" of intelligence gathering, which usually means satellites, spokesman told us. Boren believes current assets may be adequate to verify INF, but they would be strained if they also have to verify START, he said.

Air Force and Defense Advanced Projects Agency (DARPA) issued Statement of Need late last year inviting companies to help develop Radarsat concepts (SW Nov 19 p9). Pentagon previously studied using Radarsats, which use radar to develop photograph-like image of earth, to spot missiles or aircraft attacking U.S. ships and bases (SW June 8 p2). Canada is developing similar radar satellites to be used like U.S. Landsats (SW Dec 21 p4, June 29 p1).

High-Power Zone

COMPETITORS TRYING TO DELAY SATCOM K-3 WHILE THEY CATCH UP, GE CLAIMS

Opponents are trying to delay GE Satcom K-3 while they "try to catch up with GE Americom and deploy high-power satellites of their own," GE charged in reply comments on FCC's high-power density zone proceeding (SW Jan 11 p1). But FCC shouldn't reserve portion of orbital arc for high-power satellites just to accommodate one request, Americom's for video slot in central portion for K-3, GTE Spacenet said in its own comments.

Opponents' "self-interest" would be served by delay, GE claimed, "and if further delay is impossible, displacement of K-3 to an unworkable orbital position is the next best thing." GE pointed out that most of opponents applied for their own high-power satellites in latest FCC processing round (SW Sept 21 p1). Opponents contend satellites will be "mixed use," GE said, but they "would clearly have high-density uses that would present major coordination problems."

High-power satellites would be "exiled" from central arc if FCC accepts opponents' arguments, situation that clearly is "impractical," GE said. It also rejected arguments that moving SBS-4 satellite would cost additional millions of dollars to repoint VSAT antennas, saying actual cost would be closer to $500 per VSAT plus about $30,000 per month for transportable uplink.

"Relocations are a predictable and necessary element of satellite communications" that are provided for in satellite licenses and should be included in business plans, GE said. It said it already had invested millions in K-3 to provide high-power direct-to-home TV broadcasts in partnership with HBO (SW March 14 p2) and service won't work if satellite is too far from center of orbital arc. GE agreed with others, however, that high-power satellites should be spaced 2° apart, rather than 1.5°.

High-power zone, 87° to 93°, isn't necessary since there's only one applicant and it's "speculative" whether others will materialize, GTE said. It said it would be "irresponsible" for Commission to designate more prime locations than are necessary, particularly because it would require moving other satellites. GE had argued that it would have to refund deposit on K-3 satellite if it didn't get central slot, but GTE said FCC's "paramount obligation" is to public interest, not private. Other reply comments, including that of Electronic Data Systems, repeated earlier claims that zone would make satellite TV impractical and seriously impair growing VSAT industry (SW March 14 p1).

Decision would have "chilling effect" on ability to finance satellite industry, Salomon Bros. said in its filing. Possibility satellite will have to be moved is "additional element of risk... that has far more severe and unpredictable consequences than other contingencies short of the loss of an entire satellite," according to firm, which owns SBS-4 transponders through sale-leaseback arrangement. Sale-leaseback has been used to finance more than $3 billion worth of satellites since 1983, Salomon said, but financing could become impractical if operators aren't relatively sure there will be 20% residual value after leases expire, as required by tax laws.

Moving SBS-4 would cut sharply into residual value of satellite after leases expire, Salomon said. Relocating would cut useful life of satellite by up to 3 months, reducing its value by $3.6 million. Actual loss is likely to be higher because current customers would be most likely to continue using satellite after Salomon takes over, but they almost certainly would leave permanently if satellite were relocated, it said.

Congress Approves Funding Plan

CONSTRUCTION BEGINS ON NEXT-GENERATION LANDSAT REMOTE SENSING SATELLITE

Hughes and RCA already have begun construction on next-generation Landsat remote sensing satellite and decision is expected by early May on whether bird will carry 5-m sensor, Eosat officials said. Long-awaited construction startup came few days after House and Senate Appropriations Subcommittees approved govt.-Eosat funding plan (SW March 21 p2) that requires U.S. to provide total of $220 million for construction of Landsat 6, with Eosat repaying govt. $10.8 million at annual rate of $2.5 million a year once company receives first $2.5 million.

Next important decision involves sensor packages. Satellite, which will be launched on Titan 2 vehicle reportedly for $36.5 million in 1991, may include 5-m sensor. For last several months, Eosat has been studying market potential, mainly among news organizations. Results have indicated strong interest, Eosat officials say.

Eosat executive committee, composed of representatives from Hughes and RCA, wants to conduct its own study, officials said last week. "They want a high-level study," official said. "They want to go in and ask the question of corporate chiefs. That does make a big difference." Eosat study focused on whether news directors would use service; they, however, ultimately don't pay bills, officials said.

SATELLITE PERSONALS

George Bolling, ex-Martin Marietta Information & Communications Systems, named vp-advanced systems, Comsat... **Marvin Moses** appointed chief financial officer, Vienna, Va., office of Cable & Wireless... Additions at American Home Satellite Assn.: **Kathryn Haas** as asst. to pres.; **Robert Angus** as editor, member newsletter... **Takashi Kiuchi** advanced to pres., Mitsubishi Electric Sales America, succeeding **Kenji Kitamura**... **Charles Cook**, Air Force deputy asst. secy.-space plans and policy, retires April 22... **Robert Cizik**, chmn., Cooper Industries, elected to board of Harris Corp.

SATELLITE TV

Hughes has begun "very preliminary" high-definition TV discussions with several companies, including Japan's NHK, officials confirmed. Hughes plans to launch direct broadcast satellites (SW Sept 28 p1), believes DBS will be

excellent delivery system for HDTV. Talks, which are being conducted at highest corporate levels, are intended to make sure DBS satellites are optimized for HDTV, official said, adding: "There is certainly no imminent announcement."

European Satellite TV Assn. (ESTA) is to be established as legal nonprofit entity at April 11 meeting at Holiday Inn-Paris. Group will have legal hq in Brussels, although it won't have full-time secretariat at first. Election of officers is expected later this year. ESTA expects to approve Code of Practice for satellite TV industry by June, is working on issues such as satellite TV piracy and seeking legislation to give satellite home dish owners full right to receive programming. Details: Nick Snow, 21st Century Publishing, London, 44-1-352-1132.

FCC announced it will hold oral proceeding on automatic transmitter identification system (ATIS) for satellite video uplinks (SW Feb 15 p5, Nov 30 p5) at 9:30 a.m. May 16, Rm. 856, Commission hq. Proceeding will be chaired by Michael Marcus, asst. chief-technology, Field Operations Bureau, and will focus on: (1) Whether both energy dispersal and subcarrier ATIS systems are compatible with present uplinks. (2) Which would be less likely to conflict with future systems. (3) What flexibility is needed in technical standards. (4) What frequencies should be set for subcarriers. (5) What implementation timetable should be set. Individuals interested in making opening statement should contact Barbara Jones, 202-632-7090. After opening statements, "public town meeting" format will be used.

MPAA has started 24-hour hotline for reports of suspected video and film piracy, as well as cable and satellite signal theft. Satellite Bcstg. & Communications Assn. earlier started own hotline (SW Jan 25 p10). MPAA number is 800-NO-COPYS. MPAA hotline will "broaden the scope of piracy complaints beyond back-to-back copying in the home video business to include illegal duplication of film prints, illegal reception of cable and satellite TV signals and unauthorized public performances of copyrighted films," said Pres. Jack Valenti.

PBS's satellite-delivered National Narrowcast Service (NNS) is negotiating contracts to provide its training/education fare to Ku-band networks of Ford (250 sites) and Food Business Network (25 sites). Twenty-one-site Minn. Technical Institutes, C-band network that's member of NNS, is expected to switch to Ku-band by end of June. NNS, launched in Jan. 1987, has 70 "active" members, according to PBS, which estimated that "4 dozen" corporations will have installed private Ku-band networks by year end.

Star Schools Program on educational telecommunications was announced April 5 in Federal Register. Program, to be administered by Education Dept., will award up to $19.14 million in FY 1988 to partnerships aimed at developing or acquiring instructional programming in such areas as math, science and foreign languages, as well as building and acquiring facilities, such as satellite earth stations, and equipment to transmit fare. Partnerships must be organized on statewide or multistate basis under guidelines, which specify that public broadcasters, among others, are eligible. Federal share of projects will be 75%, with up to $10 million awarded for individual projects.

Pro-Am Sports System (PASS) bought full transponder on GTE Spacenet 3 satellite, will use it to deliver broadcasts of regional sports events to cable TV affiliates, PASS Gen. Mgr. William Wischman said. Mich.-based

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PASS delivers programming to more than 150 cable systems in state. Wischman said it selected satellite, which was launched March 11, because of its likely longevity of more than 10 years.

General Instrument (GI) and Titan Sports will sue bars that illegally broadcast Wrestlemania IV pay-per-view closed-circuit event, officials of 2 firms said. GI served cease-and-desist orders on 2 bars in Mich. and 2 in N.Y., and delivered similar messages by satellite to unauthorized descramblers, according to Security Dir. Terrence Luddy. He said N.Y. bars complied but Mich. bars didn't, according to GI investigators. Senior Vp James Troy said Titan will consider distributing events to home dish owners if piracy problems are resolved.

GI is marketing latest generation 2650R satellite integrated receiver/decoder (IRD). IRD includes receiver and VideoCipher II decoder in single chassis. Latest version adds capability to display information on unit's operation -- including guides to changing antenna position, storing favorite channels and parental supervision settings -- on TV screen. Unit has suggested retail price of $1,248. GI also has begun marketing new receiver, 2410R, that comes without VideoCipher decoder but can be upgraded easily, and new family of aluminum mesh antennas.

American Home Satellite Assn. (AHSA) will produce and distribute educational videos about satellite TV, Pres. Hans Giner said. First 30-min. video, on owning satellite dish, will be distributed by direct mail and through satellite TV dealers. Video is sponsored by General Instrument, Prime Time 24, Showtime/Movie Channel, Toshiba, Triple D Publishing. AHSA is new satellite TV consumer organization.

SATELLITE INTERNATIONAL

PanAmSat has withdrawn its opposition to Cable & Wireless (C&W) switched service between U.S. and France, Australia and India, it said in letter to FCC. PanAmSat last year filed petition for review of C&W licenses for service, saying C&W affiliate Mercury Communications refused to provide earth station services for PanAmSat (SW Nov 30 p8). PanAmSat said then that C&W license applications could provide good forum for FCC to investigate whether Britain was providing reciprocal access to U.S. firms wanting to enter its market. PanAmSat withdrew petition for review after British Office of Telecommunications said British Telecom has to provide earth station services to PanAmSat (SW March 28 p1). PanAmSat said it "does not believe that there is any further reason" to pursue issue, even though Mercury still has no plans to serve PanAmSat. It said it continues to hope Mercury will open its doors, but "regardless of Mercury's attitude... PanAmSat is satisfied that it will have market access in U.K." Not surprisingly, C&W-N. America officials were "very pleased" at decision. Resolution "highlights the point we have been making that this was a government-to-government issue," according to Keith Bernard, C&W dir.-regulatory affairs. PanAmSat action had tied up 6-7 "fairly routine" contracts since Dec., Bernard said, and had affected business of firm. He said C&W hopes FCC will resume considering contract approvals as routine, now that controversy is over.

U.S. is trying to line up additional countries to associate themselves with Intelsat coordination process for PanAmSat (SW April 4 p8), State Dept. official said. Associated countries would have option of using PanAmSat satellite without having to undergo further Intelsat technical coordination. No other countries have made firm commitments to take on associate status, official said, but several are interested. At June meeting, U.S. will ask Intelsat board to approve special Assembly of Parties meeting in fall to finalize coordination, official said. Without special meeting, PanAmSat couldn't begin service to Europe until after regular Assembly of Parties meeting in 1989.

Spar Aerospace won $15 million Alcatel contract to build equipment for French Telecom 2 satellite, Vp Christopher Trump said. Firm won contract in competition with companies from Europe, Japan and U.S., he said. Spar will develop 3 types of horn antennas to operate in C- and X-bands, as well as Ku-band high-gain antenna and channel amplifiers.

China's recently launched communications satellite is outperforming predecessor and proves 3rd World nation is capable of competing against other spacefaring countries, China's Vice Minister of Aeronautics Sun Jiadong said. In interview with Chinese journalists, Jiadong said March 7 flight of Long March 3 rocket carrying communications bird proved rocket was reliable. Successful launch also highlighted China's greatly improved ground telemetry and remote control technology, Jiadong added. Launch window was very narrow, and Chinese had only 2 hours to get flight ready. Once launch occurred, technicians didn't have much time to instruct satellite to make proper adjustments and ignite apogee kick motor because of small number of telemetry stations in China, he said. It took satellite 13 days to move to geosynchronous orbit at longitude 87.5° E.

EARTH STATIONS

Koch Industries will buy VSAT network from Nova-Net, Koch Data Processing Dir. Allan Davis said. Company expects to install 10 VSATs within 30-60 days, could expand network in future, he said. Koch, which has hq in Wichita, Kan., and is one of largest private corporations in U.S., has extensive oil and gas interests.

Turkey is building 2 Inmarsat coast stations to operate with Inmarsat mobile satellite system, Inmarsat spokesman said. Country made decision even though it's not formal member of Inmarsat, he said. Nine Turkish ships are

equipped with Inmarsat terminals. Inmarsat Council approved construction of 2 earth stations near Ankara to communicate with Atlantic and Indian Ocean satellites.

SATELLITE DIARY

Contel ASC wants FCC to reassign ASC-2 satellite to 99° orbital slot, instead of 81°, reducing Commission's options in latest processing round (SW Sept 21 p1). In new application, Contel said reassigning hybrid satellite is necessary to avoid repointing more than 21,000 VSATs, including many used by AP and UPI. Repointing would cost more than $10 million, Contel said, and would cause unnecessary disruption to VSAT networks after Westar 4, satellite that's currently at 99°, ceases operation. Other applicants that have indicated interest in slot include AT&T (2 hybrids), GE Americom (one hybrid), GTE Spacenet (one Ku), Hughes (one hybrid, one Ku), National Exchange (2 hybrids). ASC-2 construction is finished and bird is in storage, with launch set for June 1991.

National Satellite Paging (NSP) will introduce SkyTalk service beginning May 2, Pres. James Phillips said. SkyTalk allows callers to call NSP toll-free number and record voice message. Subscriber is notified via normal SkyPager satellite paging service (SW Feb 22 p7), told to call specific number to hear recorded message. NSP now has affiliates in 58 metropolitan areas.

FCC applications accepted for filing: (1) Washington International Teleport, to establish channels for data, voice and video service via Intelsat. (2) Telecom Bcstg., to transmit video programming between U.S. and Canada, Mexico, Central America, Caribbean.

MILITARY SYSTEMS

Air Force Space Command issued request for proposals (RFP) March 29 for study contracts for next generation of Defense Satellite Communications System (DSCS III-B) satellites. RFP is first step toward building up to 7 DSCS III-B satellites for deployment beginning in mid-1990s (SW Nov 19 p9). Satellites are to use common, nuclear-hardened, modular bus but be able to carry 4 different communications payloads -- EHF, SHF, crosslink and UHF -- according to RFP. Birds must be sized for launch on new Medium Launch Vehicle (MLV-2), Air Force said. Command said in RFP it "is not interested in challenging the state of the art" with new project, is more interested in "optimum but affordable program." Air Force plans to award up to three 9-month study contracts to be completed in Feb., each valued at maximum of $2.3 million. After studies are finished Pentagon will decide on launching full-scale procurement. Baseline program includes delivering one SHF and 2 EHF satellites between 1996 and 1998, but Air Force wants contractors to include option of 2 crosslink satellites for 1994-95 delivery and 2 buses without payloads in 1994-95.

Fourth U.S. Court of Appeals, Richmond, upheld conviction of Navy intelligence analyst for releasing 3 photos, taken by Navy intelligence satellite, for publication in British magazine in 1984. Defense Dept. lawyers said publishing photos of Soviet aircraft carrier would help Moscow learn more about capabilities of U.S. spy satellites. Court rejected argument by analyst, Samuel Morison, that photos were intended to inform public about Soviet naval capabilities and that publication was protected by First Amendment. Photos were published in Jane's Defense Weekly, reproduced in other publications.

SATELLITE FINANCE

General Instrument said it had $66.2 million net income on $1.2 billion revenues in year ended Feb. 29, compared with $80.4 million net loss on $787.9 million revenues year ago. GI didn't break down results by line of business, but said that cable equipment business had "excellent" results because cable operators were upgrading systems and because of support for impulse-ordering technology. GI said its Cable Video Store has 100,000 subscribers. Lines purchased year ago -- VideoCipher and Comm/Scope -- had good performances, GI said, describing VideoCipher as "an important profit contributor."

Terminating Contel merger cost Comsat nearly $6 million (SW July 13 p2), according to annual report. Firm also wrote off $28.7 million of assets of Comsat Technology Products, which developed, manufactured and marketed telephone equipment. Other big write-offs included nearly $27 million of assets, primarily direct broadcast satellites, of former Satellite Television Corp. subsidiary, and $25.4 million for Amplica subsidiary. Comsat said it also wrote down assets in Geostar and International Business Earth Stations, but didn't say how much or whether they were written off completely.

Astrotech International has completed sale of Quasitronics subsidiary to current pres.-COO Robert Kastelic. Kastelic left Astrotech March 31, was succeeded by Kent Rockwell as pres. Astrotech also plans to sell its Xetca subsidiary to Kastelic, contingent on financing.

NASA continued to fare well in congressional budget wars. Senate Budget Committee approved $11.1 billion, up from $10.2 billion approved by House counterpart. NASA requested $11.5 billion in FY 1989.

SPACE SYSTEMS

Arianespace won contract to launch W. Germany's TV-Sat 2 direct broadcast satellite in spring 1989 aboard Ariane 4 rocket. Contract, signed in Bonn, gives French company total of 64 launch contracts, of which Arianespace has 42 satellites remaining to fly.

Transportation Dept. won't be able to keep up with licensing demands of commercial launching industry if current congressional funding trends continue, warned Courtney Stadd, dir. of DoT's Office of Commercial Space Transportation. Stadd told House Space Subcommittee that since FY 1986, his office had received only half of its budget requests, or about $4 million. This fiscal year, office received about 30% of amount requested -- $1.4 million vs. $4.5 million. Despite funding problems, he said, office currently is conducting 3 mission reviews and one safety review. Two of those requests were submitted last year, he said. Stadd also predicted that additional 10 licensing requests will be submitted before year-end -- 250% increase over 1987. When asked about Administration's approach to resolving 3rd-party liability problem by capping punitive damages at $200,000 per person, Stadd said U.S. thought it had gone far enough in support of industry. Administration has transferred rocket technology and tooling and is working to establish "reasonable access" to govt.-owned ranges, he said. Subcommittee Chmn. Nelson (D-Fla.) has introduced bill supporting "shared-risk" approach (SW Dec 21 p3).

Shuttle launch date could slip from Aug. 4 as result of decision to check engine pumps aboard Discovery. Decision to remove engine pumps was made recently to make sure critical bolts inside them were tightened properly. Should any be stripped, it could further delay already tight schedule, official said. Top NASA managers are expected to develop new internal launch target date this week. Aug. 11 is one possibility but date could slip further if problems are detected. Morton Thiokol and NASA, meanwhile, detected debonding problem in recently shipped solid rocket booster segments, but said problem wouldn't cause delay. Officials said ultrasonic testing revealed 4 small areas where insulation had separated from rocket casing on bottom edge of one of 4 segments that make up right solid rocket booster.

Clarification: Space shuttle launch price was $72 million in 1982 dollars, is expected to be $110 million in 1988 dollars (SW April 4 p2). Difference in price is attributed almost entirely to inflation.

Contractors have identified 1-1/2-stage rocket whose core stage would carry payload to low-earth orbit and booster stage that would be discarded early in trajectory as preferred approach for Air Force-NASA Advanced Launch System (ALS). Phase 1 of ALS program is expected to end in June and Phase 2, demonstration and validation, is to begin in Aug., with award of two 25-month contracts. Air Force said it expects up to 50 ALS flights per year.

European Space Agency (ESA) has approved experiments that will be included in new joint space mission, Solar Terrestrial Science Program. ESA's science committee recently voted to proceed with project that includes 2 missions: (1) solar and heliospheric observatory called "Soho"; (2) 4-spacecraft mission, "Cluster," to investigate space plasma. Project is being done with NASA and negotiations are under way with Soviet Union on its possible contributions. Project is expected to begin in mid-1990s.

SATELLITE CALENDAR

April 26-29--**Commercial Opportunities from Space** conference, sponsored by U. of Queensland, Australia, at Brisbane Sheraton Hotel. 61-7-377-2899.

May 3-5--**Aerospace 88** conference, sponsored by American Institute of Aeronautics & Astronautics, at Hyatt Regency Crystal City, Arlington, Va. 202-646-7462.

May 3-5--**Mobile satellite communications** conference, at Jet Propulsion Laboratory, Pasadena. 818-354-0455.

May 16-19--**Remote Sensing for Exploration Geology** conference, at Westin Galleria Hotel, Houston. 313-994-1200, ext. 3234.

May 16-21--**Americas Telecom 88** sponsored by Brazilian Ministry of Communications and International Telecommunications Union, at Riocentro, Rio de Janeiro. 55-21-233-7549.

June 9-10--**European Satellite Bcstg. Conference**, at Tara Hotel, London. 44-1-868-4466.

June 20-24--Third **Weather Satellite Users Conference**, sponsored by NASA and NOAA, at Baltimore-Washington International Airport. 301-937-7762.

June 22-24--Course on digital communications, including **Satellite/Earth Station Systems**, at U. of Cal.-Berkeley Continuing Education. 415-642-4151.

June 27-30--**GOES weather satellites of 1990s**, symposium sponsored by NOAA, at Hyatt Regency, Bethesda, Md. 301-443-8031.

Oct. 11-14--**World Teleport Assn.** annual general assembly, at KölnMesse, Cologne, W. Germany. 212-466-4758.